DOCUMENT RESUME

ED 050 882 RC 005 317

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TITLE An Evaluation of Supplementary Techniques for Correcting Idiom and Vocabulary Problems of Bilingual Students.
PUB DATE Aug 70
NOTE 37p.; Master's thesis submitted to Brigham Young University, Provo, Utah
AVAILABLE FROM Inter-Library Loan from Brigham Young University, Provo, Utah

EDRS PRICE EDRS Price MF-$0.65 HC-$3.29
DESCRIPTORS *American Indians, *Bilingual Education, *Elementary School Students, English (Second Language), *Language, Masters Theses, Navaho, Oral Communication, *Reading Achievement, Reading Tests, Vocabulary

ABSTRACT

The study was conducted with the understanding that bilingual Navajo Indian students attempting to get an education in the public school system are faced with learning to read the English language under the conventional method. As stated, the primary purpose of this study was to determine if the Indian and non-Indian children in grades 4, 5, and 6 of the San Juan County School District, Utah, could increase their reading vocabulary using 6 conventional basal readers and accompanying dictionaries, the "Little Dictionaries for Vocabulary and Idioms," during the school year 1969-70. These investigator-constructed dictionaries contained English definitions of every idiom and vocabulary item in the basal readers that the researcher deemed questionable in terms of understanding by a bilingual student. Results of the pre- and post-test were statistically compared using the t-ratio. General findings were that grades 5 and 6 of the experimental Indian group showed significant gains in vocabulary skills; grade 4 Indian students in the experimental groups gained higher than grade 4 Indians in the control group; and grade 4 non-Indians in the control group gained significantly higher than Indians in the same group. Recommendations are included for replication and further study of the problem. (EL)

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AN EVALUATION OF SUPPLEMENTARY TECHNIQUES FOR CORRECTING IDIOM AND VOCABULARY PROBLEMS OF BILINGUAL STUDENTS

A Thesis

Presented to the

College of Education

Brigham Young University

In Partial Fulfillment

of the Requirements for the Degree

Master of Arts

by

David R. Richards

August 1970

LC005317

This thesis, by David R. Richards, is accepted in its present form by the College of Education of Brigham Young University as satisfying the thesis requirement for the degree of Master of Arts.

August 4, 1970

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ACKNOWLEDGEMENTS

The writer recognizes that the completion of this study could not have been realized had it not been for the assistance and co-operation of many people.

Acknowledgement is gratefully expressed to Dr. Lyal E. Holder, Chairman of the Masters Committee, who guided and assisted the writer throughout the study; to Dr. J. Hugh Baird, committee member, Dr. G. Gardner Snow and Dr. Frank W. Harmon who assisted with valuable suggestions and constructive criticism. Appreciation is also expressed to Dr. Milford Cottrell and Steven Gordon who gave valuable assistance in regard to the statistical analysis used in the study.

Appreciation is expressed to Mrs. Grace Blossom who consented to let the writer test her idea of "The Little Dictionary" in a research setting and to the teachers and administrators of the San Juan County School District for their cooperation.

Thoughtful recognition is also given to the writer's wife, Maryl, for her help and cheerful encouragement from the very beginning of the writer's educational pursuits.

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CHAPTER I

INTRODUCTION

NATURE OF THE PROBLEM

Several ideas have been conceived in an attempt to provide some educational method that would facilitate the bilingual student in learning English. The bulk of these methods center around linguistic approaches which aid the bilingual student with his speaking vocabulary, but little if any is carried into any reading program. The ability to read a new language is mandatory when confronted with texts and instructional material written in the new language. Some programs have used objects and pictures in an effort to help students identify printed words with real objects. Many of the new bilingual education programs are attempting to teach the child using his native tongue.

Teaching a student how to speak a new language without helping him to learn to read and understand the vocabulary and idiomatic nature of this new language limits the student to a speaking vocabulary alone, which is inadequate for educational purposes. Most of the educational material the bilingual student encounters is in written form. If he doesn't read he doesn't understand nor achieve. When students fail to achieve in school they drop out.

Since Navajo Indians are bilingual and since they have attempted to become educated in the public school system, they are faced with the task of learning to read the English language under the present methods. It was with an understanding of this problem that this study was conducted.

THE PROBLEM

Statement of Purpose

The purpose of this study was to determine if Indian and non-Indian children in grades four, five and six of the San Juan County School District during the 1969-70 school year, given reading instruction with the use of the "Little Dictionary for Vocabulary and Idioms", achieved a greater reading vocabulary than did Indian and non-Indian children in grades four, five, and six, instructed in the conventional reading program of the San Juan County School District during the same school year.

Hypotheses

It was hypothesized that fourth, fifth, and sixth grade:

1. Indian children given reading instruction using the "Little Dictionary for Vocabulary and Idioms", will achieve a significantly higher level of reading vocabulary than will Indian children who are instructed in the conventional reading program of the San Juan County School District.
2. Non-Indian children given reading instruction using the "Little Dictionary for Vocabulary and Idioms", will achieve a significantly higher level in their reading vocabulary

than will non-Indian children instructed in the conventional reading program of the San Juan County School District.

Delimitations

This study was limited to fourth, fifth, and sixth grade pupils in the designated experimental and control classes of the San Juan County School District during the 1969-1970 school year. Only pupils who were enrolled in their respective class for the entire year and who completed both the pretest and posttest were included in this study.

Methods and Procedures

Experimental classes. The experimental classes in this study included: grades four and six in the Monticello Elementary School; grade five in the Blanding Elementary School and grade five in the Montezuma Creek Elementary School.

Control classes. The control classes in this study consisted of grade five in Monticello Elementary, grades four and six in Blanding Elementary School and grades four and six in the Montezuma Creek Elementary School.

Instruments. All schools in the study used the 1966 edition of Scott Foresman and Company as basal readers. The basal reader in all three grades was entitled Open Highways along with the proper grade connotation. The supplementary readers were grade four Ventures, grade five Vistas, and grade six Cavalcades.

Each story in all six of these books was carefully reviewed and every idion and vocabulary item that in the judgment of the investigator was questionable in terms of understanding by a bilingual student was extracted and defined in very basic English. When each book was completely reviewed, all extracted and defined items were then printed and bound in a "Little Dictionary for Vocabulary and Idioms." This gave a complete dictionary for each of the six readers in use in the San Juan County School District Elementary Schools. Samples are available for inspection.

Each of the six "little Dictionaries for Vocabulary and Idioms" was then published in the numbers allowable under the research budget, giving a proportional amount to each group based upon student population.

Collection of Data

Data for this study was collected from pretests and posttests. These tests were constructed by selecting four items from each randomly selected page in the previously mentioned readers. Approximately 40 percent of the total test items were idiom phrases and 60 percent were vocabulary items. All tests were constructed in multiple choice pattern using four answer choices. Answers were inscribed on a four-choice type I.B.M. answer sheet.

Answer sheets were coded according to school, grade, sex, Indian, and non-Indian. These tests were given the first week in October of the 1969-1970 school year. The results of these tests were used to establish basal reading vocabulary and idiom levels.

Treatment of the Data

These same tests were given again as the posttest during the first week in May of 1970. The collected data was then processed and comparisons made according to Indian, and non-Indian students within experimental and control groups. Statistical comparisons were made using the t-Ratio to determine the levels of significance between experimental and control groups.

CHAPTER II

REVIEW OF THE LITERATURE

"Educators agree, that basic to the academic and eventual personal, social and economic success of children is their ability to speak correctly and read efficiently."[1] Concern has been voiced over the great number of students who are steadily dropping out of school. Many programs have been put into effect in an effort to capture the interests of these young people. Educators must arrive at means that will help these students identify with successful school experiences. It is an established fact that students remain in school only as long as they believe they have a chance of achieving a step up the ladder towards graduation, better jobs and fuller lives. One does not easily fool those who cannot read. They feel differently. Some feel inferior; others feel guilty or ashamed when exposed to their peers.[2]

The foregoing facts are embodied in problems facing every school district in America. Americans tend to associate or tag these hard luck stories on the poor white or the deprived black. What some educators fail to realize is that these same limitations have a potentiating effect on the bilingual student who comes to the English

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[1]Adeline W. Gromberg, "A Reading Manual To Aid The Disadvantaged," Citizens Committee on Public Education in Philadelphia (1966), 1.

[2]Ibid.

speaking school with a non-English native language. He has generally been brought up in a non-English speaking home with a cultural background far different than any of his English speaking classmates. For the bilingual student the changes and requirements placed upon him by the English speaking school become a staggering load. The non-English speaking student not only has these problems, but all those incumbent upon the poor white or disadvantaged black. Consequently, too many of the students who do not achieve in school are non-native speakers of English who begin their formal education in English and who have been taught as though they were native speakers.[3] These students understand and remember only portions of what they hear or read. They do not speak or write with any facility and therefore gravitate to the class sections for slow learners.[4] This shift is eventually culminated in the students dropping out of the educational system that has required much of them, but failed in providing the linguistic skills necessary for their success.

Several ideas have been conceived in an attempt to provide some education method that would facilitate these bilingual students in learning English. The bulk of these methods center around linquistic approaches which aid the bilingual student with his speaking vocabulary, but very little effect is carried into any reading program.[5] The ability to read a language is mandatory when confronted with texts

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[3]Maria Urguides, "Tucson's Tale of Two Cultures," National Education Journal, LVI (February, 1967), 89.

[4]Ibid.

[5]W. F. Mackey, Language Teaching Analysis (1965), 151-155.

and other written instructional material. A speaking vocabulary is simply inadequate. Some programs have used pictures and objects to help students identify words with real objects. The new bilingual education programs are attempting to instruct the bilingual child in his native tongue.[6] All of these programs have had some effect. Some have not been in operation long enough to gather any significant data. Teaching a student how to speak a new language without helping him learn to read and understand the vocabulary and idiomatic nature of this new language limits the student to a speaking vocabulary alone, which is inadequate for educational purposes. Most of what the bilingual student encounters is in written form. If he doesn't read he doesn't achieve. When students fail to achieve in school they drop out.[7]

Since Navajo Indians are bilingual, and since they have attempted to become educated in the public school system, examination of their achievement records will provide evidence relating to achievement and reading skills. Townsend did a comprehensive study of eleventh and twelfth grade Indian students. This study was designed to measure reading achievement. These results were contained in his article appearing in the Journal of American Indian Education in October of 1963. Townsend stated:

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[6]Stephen David Thurber, "A Language Instruction Program Using Pictorial Representation of Words, Individual Administration And Operant Techniques" (unpublished Master's Thesis, Brigham Young University, 1968).

[7]Gromberg, op. cit., p. 2.

> Forty-seven percent of the total Indian students in this study achieved in reading comprehension at a level below 6.8 with the average grade level at 3.9. When compared with national performance at the fifth percentile, performance in reading vocabulary indicated achievement at a grade level below 7.8 with an average grade level at 3.8. Median students generally achieve at least five years below grade level.[8]

Grace Blossom of Mesa Arisona has worked extensively with the language and reading problems of bilingual Indian students. In the course of her work she has devised several methods of instruction the results of which have given her some perceptions into the problems of Indian students. Mrs. Blossom stated that in the latter part of grade three and continuing on in grade four, difficult vocabulary words and idiomatic phrases are presented with little pictorial representation. The bilingual student cannot cope with them.[9] Difficult sentences also lead to limited comprehension. The bilingual student becomes discouraged, bored and by fourth grade a definite shift in attitude has taken place.[10]

The findings of Mrs. Blossom are substantiated in a research project conducted among the Navajo Indians by Stephen L. Bayne who stated:

> One of our most striking findings was there appears to be in the eyes of the teachers a distinct turning point in the educational motivation of the Navajo children at about the third grade.[11]

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[8]Irving D. Townsend, "Reading Achievement of Eleventh and Twelfth Grade Indian Students", Journal of American Indian Education (October, 1963), 9-10.

[9]Grace A. Blossom, The Reading Problem of the Bilingual Child and a Solution (1967), 1-20.

[10]Ibid.

[11]Stephen L. Bayne, "Motivating Navajo Children," Journal of American Indian Education, Vol. 8 (January, 1969), 11-14.

Teachers report that these normally bright, energetic youngsters become uninterested, apathetic and occasionally hostile to the teachers. Bayne accounted for this change during the third and fourth grade because there is a great increase in the number of English words the children must understand to enable them to comprehend their readers. There also is an increase in the number of abstract concepts introduced. These concepts relate to no exemplars within the cultural background of the Indian student.[12]

At the conclusion of Bayne's research he cited the discouraging effect these encounters have upon the young bilingual Navajo child. Several recommendations were made but one particular suggestion relates directly with this study. Bayne suggested:

> Teachers should be allowed and encouraged by the Bureau of Indian Affairs to experiment with different types of readers and to invent their own supplements to the Scott Foresman series readers required by the schools.[12]

Grace Blossom arrived at somewhat the same conclusion as Bayne, although not in the same way. That is: the basal reader as used in the reading program did not meet the reading needs of the English deficient student in the vocabulary and idiom comprehension skill areas. The basal reader needed to be supplemented to "bridge the gap" of language deficiency.[14]

The study described herein attempted to statistically test Grace Blossom's idea in a research design which would provide a population large enough that generalities could be made that would be more meaningful than in a single classroom setting.

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[12]Bayne, p. 14.

[13]Ibid.

[14]Blossom, op. cit., p. 18.

CHAPTER III

RESULTS OF THE STUDY

Fourth Grade

T-Test results for the total fourth grade experimental groups compared to the total fourth grade control groups indicated that there was no significant differences in reading vocabulary achievement between the two groups. See Table I for the fourth grade. The study did reveal that when only the Indian students were compared within the experimental and control groups the Indian students in the experimental group attained a significantly higher level of reading vocabulary achievement than did the Indian students in the control group. The difference being significant at the .05 level. See Table II.

Another finding of the study pointed out that the non-Indian student in the control group scored much higher in reading vocabulary achievement than did the Indian student. The posttest scores of the non-Indian in the control group when compared to the Indian student was significant at the .001 level. See Table III.

The results of the total group of fourth graders was hampered somewhat because the Bluff and Mexican Hat schools were unable to forward their posttest results in time to be included in the study. Since both Mexican Hat and Bluff were experimental schools the loss of their posttest results limited the numbers of experimental subjects to which comparisons could be made.

TABLE I

4TH GRADE

COMPARISON OF INDIAN - NON-INDIAN EXPERIMENTAL GROUP
TO INDIAN - NON-INDIAN CONTROL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO (EX)	46	329.000	5629.000	-7.152	8.532
BLANDING & MONTEZUMA CREEK (CONT)	87	520.000	22504.000	-5.977	15.018

Degrees of Freedom 131 T 2 = 0.490

Interpretation: The observed difference is non-significant.

TABLE II

4TH GRADE

COMPARISON OF INDIAN EXPERIMENTAL GROUP WITH INDIAN CONTROL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO (EX)	7	-74.000	1208.000	-10.571	8.423
BLANDING & MONTEZUMA CREEK (CONT)	34	-94.000	2006.000	-2.765	7.274

Degrees of Freedom 9 T 3 = 2.283

Interpretation: The observed difference is significant at the .05 level.

TABLE III

4TH GRADE

COMPARISON OF INDIAN CONTROL GROUP WITH NON-INDIAN CONTROL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
BLANDING	53	-426.000	7424.000	-8.038	8.770
MONTEZUMA CREEK	34	-94.000	2006.000	-2.765	7.274

Degrees of Freedom 82 T = 3.041

Interpretation: The observed difference is significant at the .001 level.

Fifth Grade

T-Test results for the total fifth grade experimental groups compared to the total fifth grade control group indicated that there was a significant difference in reading vocabulary achievement between the two groups. The difference was significant at the .06 level. This level was determined by interpolation of computer results following accepted statistical methods. See Table IV.

Comparisons were then made between the Indian students and the non-Indian students in the experimental group only. The observed difference in reading vocabulary gain between the experimental Indian group in the fifth grade and the experimental non-Indian group in the fifth grade was non-significant. See Table V.

Due to the limited number of Indian students in the fifth grade control group no other comparisons were made.

TABLE IV

5TH GRADE

COMPARISON OF INDIAN - NON-INDIAN EXPERIMENTAL GROUP
TO INDIAN - NON-INDIAN CONTROL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO (CONT)	46	-458.000	12134.000	-9.957	12.973
BLANDING & MONTEZUMA CREEK (EX)	99	-610.000	13920.000	-6.162	10.183

Degrees of Freedom 143 T 2 = 1.910

Interpretation: The observed difference is significant at the .06 level.

TABLE V

5TH GRADE

COMPARISON OF INDIAN EXPERIMENTAL GROUP
TO NON-INDIAN EXPERIMENTAL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTEZUMA CREEK	39	-189.000	4071.000	-4.846	9.112
BLANDING	60	-421.000	9849.000	-7.017	10.810

Degrees of Freedom 93 T 3 = -1.075

Interpretation: The observed difference is non-significant.

Sixth Grade

T-Test results for the total sixth grade experimental groups compared to the total sixth grade control groups indicated that there was a significant difference in reading vocabulary achievement between the two groups. The gain in reading vocabulary test scores by the Indian - non-Indian experimental group above the Indian - non-Indian control group was significant at the .02 level. See Table VI.

Comparisons were then made between the Indian and non-Indian students in the sixth grade experimental group. No significant difference in reading vocabulary achievement gain could be reported for either the Indian student or the non-Indian student who was given the treatment during the school year. See Table VII. In other words both Indian and non-Indian students in the sixth grade experimental group progressed at a rate nearly equal to each other. Therefore no significant difference in reading vocabulary achievement appeared to exist.

Between group comparisons were made of sixth grade Indians in the experimental group to sixth grade Indians in the control group. See Table VIII. The comparison of these two groups of sixth grade Indians yielded a non-significant result. The readers attention is drawn to the size differential of the experimental and control groups being compared. The experimental group contained only 5 subjects as compared to 49 subjects in the control group. This size differential was caused by the absence of posttest scores from the sixth grade experimental groups in the Bluff and Mexican Hat schools. These scores were unavailable at the time the computer processing was done.

TABLE VI

6TH GRADE

COMPARISON OF INDIAN - NON-INDIAN EXPERIMENTAL GROUP
WITH INDIAN - NON-INDIAN CONTROL GROUP

SCHOOL		N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO	(EX)	43	-138.000	1938.000	-3.209	5.966
BLANDING & MONTEZUMA CREEK	(CONT)	102	23.000	7123.000	0.225	8.395

Degrees of Freedom 143 T 2 = 2.434

Interpretation: The observed difference is significant at the .02 level.

TABLE VII

6TH GRADE

COMPARISON OF INDIAN EXPERIMENTAL GROUP
WITH NON-INDIAN EXPERIMENTAL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO (EX)	5	5.000	263.000	1.000	8.031
MONTICELLO (EX)	38	-143.000	1675.000	-3.763	5.543

Degrees of Freedom 41 T 2 = -1.717

Interpretation: The observed difference is non-significant.

TABLE VIII

6TH GRADE

COMPARISON OF INDIAN EXPERIMENTAL GROUP
WITH INDIAN CONTROL GROUP

SCHOOL		N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO	(EX)	5	5.000	263.000	1.000	8.031
BLANDING & MONTEZUMA CREEK	(CONT)	49	-17.000	2795.000	-0.347	7.623

Degrees of Freedom 52 T 2 = -0.375

Interpretation: The observed difference is non-significant.

Summary

Insofar as total Indian and non-Indian experimental groups are concerned reading vocabulary achievement in grade four was nonsignificant. Grade five was significant at the .06 level and grade six was significant at the .02 level.

Further analysis revealed that fourth grade Indian students in the experimental groups improved their reading vocabulary skills at a significantly higher rate (.05) than did fourth grade Indian students in the control group. Fourth grade non-Indians in the control group had reading vocabulary posttest scores much higher than fourth grade Indian students in the same group. The difference in reading vocabulary achievement was significant at the .001 level.

Fifth grade non-Indians in the experimental group achieved no greater reading vocabulary gains than Indian students in the same experimental group. Their difference in reading vocabulary achievement was statistically nonsignificant.

The non-Indian students in grade six had no greater reading achievement gain than did Indian students in the same experimental group. The comparison of the Indian students to the non-Indian students within the experimental group yielded a nonsignificant result. Comparisons of Indian students from the experimental groups with Indian students from the control group yielded a non-significant result, but a considerable size differential exists between the two groups. See Table VIII. The size differential was caused by the absence of posttests from Bluff and Mexican Hat experimental groups.

CHAPTER IV

GENERALIZATIONS AND ANALYSIS OF THE FINDINGS

Fourth Grade

Some concern was felt by the researcher due to the fact that comparisons of the fourth grade experimental and control groups were non-significant. Comparison of fifth and sixth grade experimental and control groups' achievement shows significant results in favor of the experimental groups. Fifth grade was significant at the .06 level and sixth grade at the .02 level. See Tables IV and VI, Chapter III.

The reading problem of the bilingual student has a compounding effect as he moves through the elementary grades. This observation, is not necessarily substantiated by the data, but is a personal impression gained by the investigator. Consequently, the reading problem of the fifth and sixth grade bilingual student would be more recognizable and any improvement spawned by the treatment would also manifest itself more clearly.

In addition to the compounding effect of the bilingual students' reading problem, further analysis of the results of the study pointed out a weakness in the collection of the data. Had the fourth grade experimental groups in Bluff and Mexican Hat sent their posttest results in time for computer processing the researcher would have had a larger population of subjects with which to make

comparisons. This increase in subjects would all be Indian bilingual students. The real problem in the fourth grade results rests with the fact that the Indian population is extremely small within the groups compared. Regardless of what the results indicated, the researcher would hesitate to make any generalization from the fourth grade results to other fourth grade bilingual populations.

One encouraging finding of the fourth grade test results was that when the Indian students in the experimental group were compared with the Indians in the control group the Indian experimental group's reading vocabulary achievement test score gain was significant at the .05 level. See Table II. Again the reader is cautioned against making generalizations with this small population within the experimental groups. However, the result of this comparison of the fourth grade Indians in the experimental and control groups is most encouraging.

Of further interest is the comparison of the Indian student achievement to that of the non-Indian student within the experimental group in the fourth grade. Regardless of what reading vocabulary level these students had attained when they entered the fourth grade, their posttest reading vocabulary achievement scores did not vary enough to yield a significant result. See Table IX. This fact alone could be the most valuable finding of the study. The researcher interprets this non-significant result between the Indian and non-Indian students within the experimental group as evidence of the beneficial and equalizing effect of the "Little Dictionary" in building reading vocabulary when used in conjunction with the conventional reading program.

TABLE IX

4TH GRADE

COMPARISON OF INDIAN EXPERIMENTAL GROUP
WITH NON-INDIAN EXPERIMENTAL GROUP

SCHOOL	N	SUM OF X	SUM OF XX	MEAN	S.D.
MONTICELLO (EX)	39	-255.000	4421.000	-6.538	8.513
MONTICELLO (EX)	7	-74.000	1208.000	-10.571	8.423

Degrees of Freedom 44 T 2 = -1.156

Interpretation: The observed difference is not statistically significant.

This finding becomes more meaningful when correlated with the results of the control group comparisons between fourth grade Indian and non-Indian students. The non-Indian students in the control group who were instructed in the conventional reading program had reading vocabulary achievement posttest scores that were significant at the .001 level over the fourth grade control group Indian students' posttest scores.

Fifth Grade

The broader population and significance level of reading vocabulary achievement of the fifth grade experimental group allows the researcher to make more ambitious generalizations. Table V represents the comparison of the Indian - non-Indian experimental group to the Indian - non-Indian control group. The experimental group results are significant at the .06 level. The comparison of these groups represented 145 subjects of a mixed population. The size of the fifth grade population enabled the posttest reading vocabulary achievement of the experimental group to be more reliable since the results represented a more typical, mixed bilingual classroom. See Table VI representing the comparison of Indian students to non-Indian students within the experimental group. There was no significant difference in reading vocabulary achievement in the posttest scores. This result was consistant with the same comparison within the fourth grade. Reading vocabulary achievement differences of Indian and non-Indian students in the experimental groups were minimized by the use of the "Little Dictionary".

Since the data from the control group in Bluff and Mexican Hat could not be used, no further comparisons were made between the fifth grade experimental and control groups.

Sixth Grade

The fact that there are 145 subjects in grade six experimental and control groups gave weight to the findings. See Table VII. The 145 subjects consisted of nearly fifty percent Indian students. The researcher felt that since the significance level was at .02, the use of the "Little Dictionary" had again had an effect on reading vocabulary achievement of sixth grade students. This same reading vocabulary improvement should be transferable to other sixth grade bilingual students under similar circumstances.

Perhaps the most meaningful result of the comparisons made within the sixth grade groups was when sixth grade Indian students in the experimental group were compared with sixth grade non-Indian students within the same experimental group. The posttest reading vocabulary achievement scores between the two groups showed no significant difference.

As the results from all experimental groups within grades four, five and six were compared, the pattern of performance of Indian student to non-Indian student was consistantly non-significant. The researcher attributed this leveling off of reading vocabulary achievement differential between Indian and non-Indian students to the use of the "Little Dictionary" by all Indian and non-Indian students within the experimental sections of grades four, five and six.

The findings described in Table VIII between sixth grade Indian students in the experimental group and sixth grade Indian students in the control groups really does not carry much weight for research purposes. Although the results of this comparison are non-significant there were too few sixth grade Indian students in the experimental group to provide for meaningful generalizations to other populations.

As the researcher reflects on the study, one fact is especially clear. In every grade the Indian students in each experimental group held their own in terms of reading vocabulary improvement. There was no significant difference between the reading vocabulary gain of Indian and non-Indian students within the experimental groups of the fourth, fifth or sixth grades. If the time and money expended in this project equalized the reading differential between the bilingual Indian students and their non-Indian classmates then the project was worthwhile. The researcher encourages the funding of similar projects for experimentation within new and larger bilingual populations. The results of this study merit replication.

CHAPTER V

SUMMARY AND RECOMMENDATIONS

Purpose of the Study

The purpose of this study was to determine if Indian and non-Indian children in grades four, five and six of the San Juan School District during the 1969-1970 school year, given reading instruction with the use of the "Little Dictionary for Vocabulary and Idioms", did achieve a greater reading vocabulary than Indian and non-Indian children in grades four, five and six instructed in the conventional reading program of the San Juan School District during the same school year.

Review of the Literature

Several ideas have been conceived in an attempt to provide some educational method that would facilitate bilingual students in reading English. The ability to read a language is mandatory when confronted with texts and instructional materials written in that new language.

Grace Blossom of Mesa, Arizona has worked extensively with language and reading problems of bilingual Indian students. In the course of her work she has devised a method of reading instruction using "Little Dictionaries for Vocabulary and Idioms" which is designed to supplement the bilingual Indian student's basal reader. This study attempts to statistically test Grace Blossom's idea of using the

"Little Dictionary" as a supplement to the bilingual student's basal readers.

The San Juan County School District provided a bilingual population large enough to test the research design beyond a single classroom setting.

Findings

Insofar as total Indian and non-Indian experimental groups are concerned the findings of the study in no way weaken or refute the initial hypotheses being tested. Even though the findings in the fourth grade were non significant, there was such a small N that it would be inappropriate to accept or refute the hypotheses on the basis of these results. Grade five experimental group's reading vocabulary achievement was significant at the .06 level. Grade six experimental group's reading vocabulary achievement was significant over the control group at the .02 level.

Further analysis disclosed that fourth grade Indian students in the experimental groups improved their reading vocabulary skills at a much higher level than did fourth grade Indian students in the control group. This vocabulary achievement difference was significant at the .05 level.

Fourth grade non-Indians in the control group had reading vocabulary posttest scores much higher than fourth grade Indian students. The difference in reading vocabulary achievement was significant at the .001 level.

Fifth grade non-Indians in the experimental group achieved no greater level of reading vocabulary gain than Indian students in the same experimental group.

Furthermore, the same holds true for the sixth grade experimental group. The non-Indian student had no greater reading vocabulary achievement gain than did Indian students in the same experimental group.

The value of additional comparison was limited since posttest data from Bluff did not arrive in time to be included in the computer processing.

Generalization

As the researcher reflects on the findings of the study it appears logical that the levels of significance obtained by the fifth and sixth grade students in the experimental groups are worthy of broader generalization to similar members of the populations.

In addition the closing of the reading vocabulary gap by the "Little Dictionary" in all experimental groups leads the writer to suggest a further hypotheses. When any randomized experimental group containing Indians and non-Indians is given reading instruction using the "Little Dictionary" as a suppliment to their basal readers, post-test reading vocabulary achievement differences will be non-significant.

This hypotheses was supported by the findings of the present study since the experimental groups in grades four, five and six reading vocabulary achievement gain between all members of the grades compared were non-significant. This fact carries more impact when the reader considers the reading vocabulary differential existant between the Indian and non-Indian.at the outset of the study. The researcher feels this closing of the reading vocabulary gap can and should be credited to the effectiveness of the "Little Dictionary".

Recommendations

From the conclusions drawn in this study the following recommendations are made:

1. The study needs to be replicated using a larger population in which the bilingual classroom populations are as nearly equivalent as possible. This would allow the effect of acculturation differences between Indian students living on and off the reservation to be compared.
2. The application of a more sensitive statistical process other than the t-test would help identify any interaction or confounding of the variables involved in the study that may have been masked by our statistical treatment of the data.
3. Pretest scores need some kind of analysis that would give the researcher some knowledge of the reading vocabulary level of each student when he entered into the experimental study. Initial processing of the pretest data would also give the researcher some idea of the reading vocabulary differences between experimental and control groups at the outset of the study. This processing of pretest data would allow more specific reading vocabulary achievement gains to be analyzed when compared to the posttest scores.
4. Treatment and evaluation of reading vocabulary achievement should also be given within the primary grades in order that the compounding effect of the bilingual student's reading vocabulary problem can be corrected before a learning attitude shift can take place.

5. An effective record system needs to be devised in order that the extent of student usage of the treatment materials can be observed and correlated to reading vocabulary achievement.

BIBLIOGRAPHY

Bayne, Stephen L., "Motivating Navajo Children," Journal of American Indian Education, Vol. 8, (January, 1969), 11-14.

Blossom, Grace A., The Reading Problem of the Bilingual Child and a Solution, (1967), 1-20.

Gromberg, Adeline W., "A Reading Manual To Aid The Disadvantaged," Citizens Committee on Public Education in Philadelphia, (1966), 1.

Mackey, W. F., Language Teaching Analysis, (1965), 151-155.

Thurber, Stephen David, "A Language Instruction Program Using Pictorial Representation of Words, Individual Administration and Operant Techniques," (unpublished Master's Thesis, Brigham Young University, 1968).

Townsend, Irving D., "Reading Achievement of Eleventh and Twelfth Grade Indian Students," Journal of American Indian Education, (October, 1963), 9-10.

Urquides, Maria, "Tucson's Tale of Two Cultures," National Education Journal, LVI (February, 1967), 89.